

Candidates for Red Seal Certificate (first year) must send answers to the questions in their respective courses to EXAMINING BOARD, F. P. R. C., ROOMS 11-13, TIMES BLDG., CHICAGO.

# FARMERS'

## Progressive Reading Circles.

1891.



1892.

### OUTLINE · MEMORANDA.

#### COURSE IN NATURAL SCIENCE.

1. Have you read Prof. Ballard's book, "The World of Matter," and followed the questions and explanations in the FARM, FIELD AND STOCKMAN between December, 1891, and May, 1892?
2. What other books on the general topics of chemistry and mineralogy have you read?
3. Define mineralogy, chemistry.
4. What is an element?
5. Name nine common elements, three of which are solids, three liquids and three gases.
6. What is a compound? Show the difference between physical and chemical compounds.
7. What is the law of multiple proportions?
8. Define atom; molecule.
9. Give the chemical symbols for the following substances: Oxygen, iron, potassium, water, salt, mercury, lime, muriatic acid.
10. Define molecule, atom.
11. What is meant by atomic weight?
12. Define matter, a theory, a phenomenon.
13. Define specific gravity and tell how it is determined.
14. What are physical properties? Give examples.
15. Give the three forms of water. Do other substances have these three forms? If so, give examples.
16. What two gases are obtained from water?
17. Of what element is coal largely composed?
18. What is an acid? A base?
19. What is the composition of clay? sand? limestone?
20. What is analysis?
21. What is a scale of hardness and how is it used?

22. Give a mineralogic description of three minerals. [See chart accompanying chapter 25 in the FARM, FIELD AND STOCKMAN for May 21, 1892.]
23. Name and describe the tools used in mineralogy.
24. Draw a diagram of the blow-pipe flame showing the oxydizing and reducing flames.
25. Describe the use of borax in mineralogy.
26. Explain the value of flame tests and give examples of various minerals and the color of their flame tests.
27. Sign your name, postoffice address, county and State.

### COURSE IN DOMESTIC SCIENCE.

1. Have you read Mrs. Armstrong's book, "Hygiene of the Kitchen," and followed the questions and answers printed in the FARM, FIELD AND STOCKMAN?
2. What other collateral reading have you done in the line of hygiene and practical household economy?
3. What kind of flour is richest in gluten?
4. What is gluten?
5. Name the best kinds of yeast.
6. What are other methods of making light bread?
7. Give process of making good stock.
8. Give rule for boiling salt meats.
9. What is the best way of treating a tough steak?
10. How long should beans be baked for the New England breakfast?
11. What should accompany this dish?
12. What is served with lamb as a relish?
13. Give rule for dressing poultry.
14. What is the most delicate and delicious fish of our Western waters?
15. What is the best method of cooking white fish?
16. What are the two most practicable methods for using fragments of meat?
17. What is the best method of boiling an egg?
18. Give rule for mayonnaise.
19. Mention a variety of salads.
20. What makes potatoes dark and heavy in cooking?
21. What two vegetables are among the most valuable foods of workingmen?
22. What kind of sugar should be used for delicate cake? for white cakes? for dark cakes?
23. What are the different results from using sweet and sour milk?
24. What are the most important considerations in making pastry?
25. At what stage is fruit most suitable for canning?
26. What cans are recommended?
27. Give directions for making jelly.
28. What is said of the use of fresh, uncooked fruits?
29. Give general directions for pickles.
30. What proportion of ground coffee to a quart of water?
31. Should coffee boil?
32. What injures the flavor of tea?
33. What are the best drinks for harvesters?
34. What articles of diet have you learned to prepare for the sick?
35. What suggestions for the sick room?
36. Sign your name, postoffice address, including county and State.

### COURSE IN AGRICULTURE.

1. Have you read "Soils and Crops of the Farm" during the year ending June 1, 1892?
  2. Name any other book on the cultivation of the soil you have read during the year.
  3. Name any "books of reference" you have used in connection with your reading.
  4. Name any "collateral reading" you have followed.
  5. What is agriculture?
  6. What is a plant?
  7. What is soil?
  8. What chemical elements are usually found in plants?
  9. Of what are plants mostly composed?
  10. What are annuals, biennials, perennials? Give examples of each.
  11. What must a soil contain to be capable of sustaining plants?
  12. Of what substances may soil be said to be composed?
  13. What are the uses of soil as regards plant growth?
  14. How may manures act?
  15. What is a complete manure?
  16. What is a special manure?
  17. From what is the commercial value of artificial manures estimated?
  18. How can the actual value of any manure for a given piece of land or a particular crop be determined?
  19. Name five manures, giving the "element" that makes each valuable.
  20. Name some slow acting and some quick acting manures.
  21. Give five reasons for draining land.
  22. In underground drainage what should govern the depth and distance apart of drains?
  23. Is drainage all benefit?
  24. What is irrigation?
  25. What are the objects of tillage?
  26. What is subsoil plowing; trench plowing?
  27. What is rotation of crops, and why is it productive of better crops?
  28. What is "green manuring"?
  29. Name two or three "courses" for a rotation.
  30. Name three methods of crop improvement.
  31. What is the wheat yield of the world? Name in order the largest wheat-producing countries.
  32. The wants of what country control the wheat market of the world, and what part of its supply is home-grown?
  33. Agriculturally considered upon what does the successful growth of wheat depend?
  34. How does the production of corn compare with the production of wheat?
  35. What is the keynote to successful corn culture?
  36. What place among the important cereals do oats occupy?
  37. What soil and climate is best for oats?
  38. What cereal is successfully cultivated in the widest range of climate, and how does it rank in production with other cereals in the United States?
  39. Which is the most important farm crop in this country?
  40. Name and give best qualities of five grasses.
  41. Name and give characteristics of five clovers.
  42. What is soiling?
  43. Name five plants that may be profitably used for soiling or ensilage.
  44. What makes "variety" in potatoes?
  45. What soil, climate and preparation of seed are best for potato culture?
  46. How are sweet potato plants produced and cultivated?
  47. Mention the principal root crops and name the best soil and climate for beets.
  48. From what plants is sugar made?
  49. What climate and soil are best suited to sugar cane?
  50. How is sugar cane reproduced, and how is the seed-bed prepared?
  51. What has stood in the way of a profitable production of sugar from sorghum?
  52. What is essential to the successful culture of the sugar beet? Where are these found? What limits the area in which sugar beets may be raised?
  53. How many crops exceed cotton in acreage? How many in value, and what are they?
  54. Where does hemp thrive best?
  55. What is the most encouraging fact in the warfare against weeds?
  56. Give name, postoffice, county and State.
- Please write answers neatly, plainly and with ink.

## COURSE IN POLITICAL SCIENCE.

1. Have you read "Wealth and Civilization" during the year ending June 1, 1892?
2. What other books on the general subject of political economy and its history have you read?
3. What books does Judge. Tourgée, in his Introduction, recommend relating to the history of the subject, and have you consulted these books?
4. Which one of the several definitions of political economy do you prefer?
5. How is political economy related to the labor questions?
6. Where and when in history do the facts of political economy first present themselves for study?
7. When did the Greek school of political economic writers arise, and what were some of their suggestions?
8. What two forces liberated the modern era from slavery?
9. What was the influence of the free cities and the Italian republics?
10. What effect had the Crusades?
11. Why must agriculture precede trade and commerce?
12. How was agriculture developed in 800 and so on to 1200?
13. What was the condition of the lower classes in France in the Middle Ages?
14. Was that of the German peasant much better?
15. Describe the early methods of taxation—of Charlemagne; of Edward in 1275; of the Italian republics.
16. How were nations formed?
17. Who were the leading sovereigns in Europe in the Sixteenth Century?
18. What did Charles V. seek in America?
19. What drove the manufacturers from the Netherlands to England?
20. What was the first result of the discovery of America?
21. How did the discovery of silver mines affect Europe?
22. What part have Australia and the great Indian companies played in developing trade?
23. How may we learn of the effects of the Reformation upon civilization?
24. What the English, American and French Revolutions?
25. When was African slavery started and by whom?
26. Was it more profitable than free labor?
27. What servitude seems to be the successor of slavery (page 148)?
28. Is Communism the remedy for labor troubles and inequality of distribution?
29. What remedy does our author (Mr. Ashley, of Farmers' Alliance), recommend?
30. What is the Malthus doctrine?
31. Why is there a distinction between nominal and real wages?
32. Sketch the origin of money.
33. Were the first experiments in paper money successful?
34. Sketch in outline its further history and that of bank notes.
35. What is the meaning of the double standard?
36. What is stated as the protective system of Europe and America (page 266)?
37. In what way have the power of transportation companies become a menace to the general prosperity?
38. Sign your name and postoffice, including county and State.